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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/885,459	06/19/2001	Donald E. Alfano	CYGL-25,768	2744
25883	7590	02/10/2004	EXAMINER	
HOWISON & ARNOTT, L.L.P.			KIM, KENNETH S	
P.O. BOX 741715			ART UNIT	
DALLAS, TX 75374-1715			2111	

DATE MAILED: 02/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant(s)

09/885,459

Examiner

Kenneth S KIM

Applicant(s)

ALFANO ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 8-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

KENNETH S. KIM
PRIMARY EXAMINER

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Claims 1-13 are presented for examination.
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-7, drawn to a reconfigurable interface in an IC for configurably interfacing i/o pins to functional resources, classified in class 712, subclass 38.
 - II. Claims 8-13, drawn to a processor with internal memory not accessible from external devices, classified in class 711, subclass 163.
3. The inventions are distinct, each from the other because of the following reasons: Inventions *invention of Group I* and *Group II* are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because *the invention of group I can be used in a system without the access limited memory*. The subcombination has separate utility such as *use in a system without the reconfigurable interface*.
4. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification and the search required for one group is not required for the other group, restriction for examination purposes as indicated is proper.
5. During a telephone conversation with *Mr. Gregory M. Howison on February 3, 2004 a provisional election was made without traverse to prosecute the invention of group I, claims 1-7*. Affirmation of this election must be made by applicant in replying to this Office action. Claims 8-13 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.
6. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

7. The abstract of the disclosure is objected to because the current abstract does not reflect the inventive feature of the claimed invention to distinguish over the prior art. Correction is required. See MPEP § 608.01(b).

All amended abstracts are to be submitted on a **separate sheet** (without the brackets and underlines).

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Cheung et al, U.S. Patent No. 6,262,594.

Cheung et al teaches the invention as claimed in claim 1 including a re-configurable processor comprising:

(a) a processing core for operating on a set of instructions to carry out a predefined process (col. 1, line 15),

(b) a plurality of input/output (i/o) pins (col. 4, line 37),

(c) a re-configurable interface (11) for interfacing between said processor core and said i/o pins, said re-configurable interface operable to define how each of said plurality of i/o pins interfaces with said processor core and functionality associated therewith (col. 5, lines 58-61), and

further teaches as in claims 2-7,

(d) wherein said i/o pins are configured in functional groups (col. 9, lines 31-35) – claim 2,

(e) wherein each of said plurality of i/o pins can be interfaced to any one of a plurality of i/o of said processor core by said re-configurable interface (col. 6, line 18) – claim 3,

(f) wherein said re-configurable interface is programmable by a user (col. 5, line 56) – claim 4,

(g) wherein said processor core comprises a digital section interfacing with an analog section coupled to analog i/o pins (fig. 5B; 228 and 144; col. 11, line 65) – claim 5,

(h) wherein said analog pins are not re-configurable with said re-configurable interface (not connected to the switch) – claim 6,

(i) wherein said processor core comprises a memory (col. 1, line 15) – claim 7.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Allen et al taught a method of selectively coupling function signals to i/o pins.

Huang et al taught a method of configurably coupling programmable logic array devices to i/o pins.

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El-Ayat taught a method of using programmable analog switch and digital interconnection to interface i/o pins in a mixed IC.

Ma et al taught a method of sharing i/o pins by multiple core.

Kaplinsky taught a method of coupling functional units to i/o pins by programmable interconnects.

Fung et al taught a method of programmably coupling functional blocks to i/o pins.

McGowan taught a method of coupling analog and digital functional circuits to i/o pins.

Naglestad et al taught a method of reconfigurably interfacing functional blocks to i/o pins.

11. Applicant confirmed that page 76 in the specification is a blank sheet.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth S KIM whose telephone number is (703) 305-9693. The examiner can normally be reached on M-F (8:30-17:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (703) 305-4815. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

February 5, 2004


KENNETH S. KIM
PRIMARY EXAMINER